
SUSPENSION - 44

PARTS CATALOG,
SERVICE MANUAL &
SERVICE TIME
SCHEDULE CODE

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SPECIFICATIONS, FRONT SUSPENSION

Type: Independent wheel with control arms, coil springs, sway bar and hydraulic, telescopic, double-acting shock absorbers on lower control arm. Joints lubricated << for life >>.

Steering Knuckles.

Inclination angle	6°
Caster angle (car laden*)	3° 30' ± 30'
Caster adjustment: by shims inserted between body and upper control arm.	

Wheels.

Camber (car laden*)	0° 30' ± 30'
Camber adjustment: by shims inserted between body and upper control arm.	
Toe-in (car laden*)12 ± .039" (3 ± 2 mm)
Toe-in adjustment: by threaded sleeves on steering tie rods.	
Locking suspension: with car laden*	

Coil Springs.

Length under a load of 970.03 ± 33 lb. (440 ± 15 kg)	8.8189" (224 mm)
Minimum permissible load referred to above length	892 lb. (405 kg)
Coil springs are divided into two classes color coded as follows:	
– yellow: springs which under a load of 970.03 lb. (440 kg) have a length of more than	8.8189" (224 mm)
– green: springs which under a load of 970.03 lb. (440 kg) have a length equal to or less than	8.8189" (224 mm)
Spring pairs belonging to the same class should be fitted.	

Shock Absorbers.

Pressure cylinder bore	1.063 (27 mm)
Length: – extended (abutting begins)	12.046" $\begin{smallmatrix} +.118" \\ -.039" \end{smallmatrix}$ (306 $\begin{smallmatrix} +3 \\ -1 \end{smallmatrix}$ mm)
– retracted	8.464 ± 0.787" (215.5 ± 2 mm)
Stroke (abutting begins)	3.563" (90.5 mm)

(*) Car laden: 2 persons + 130 lb. (59 kg).

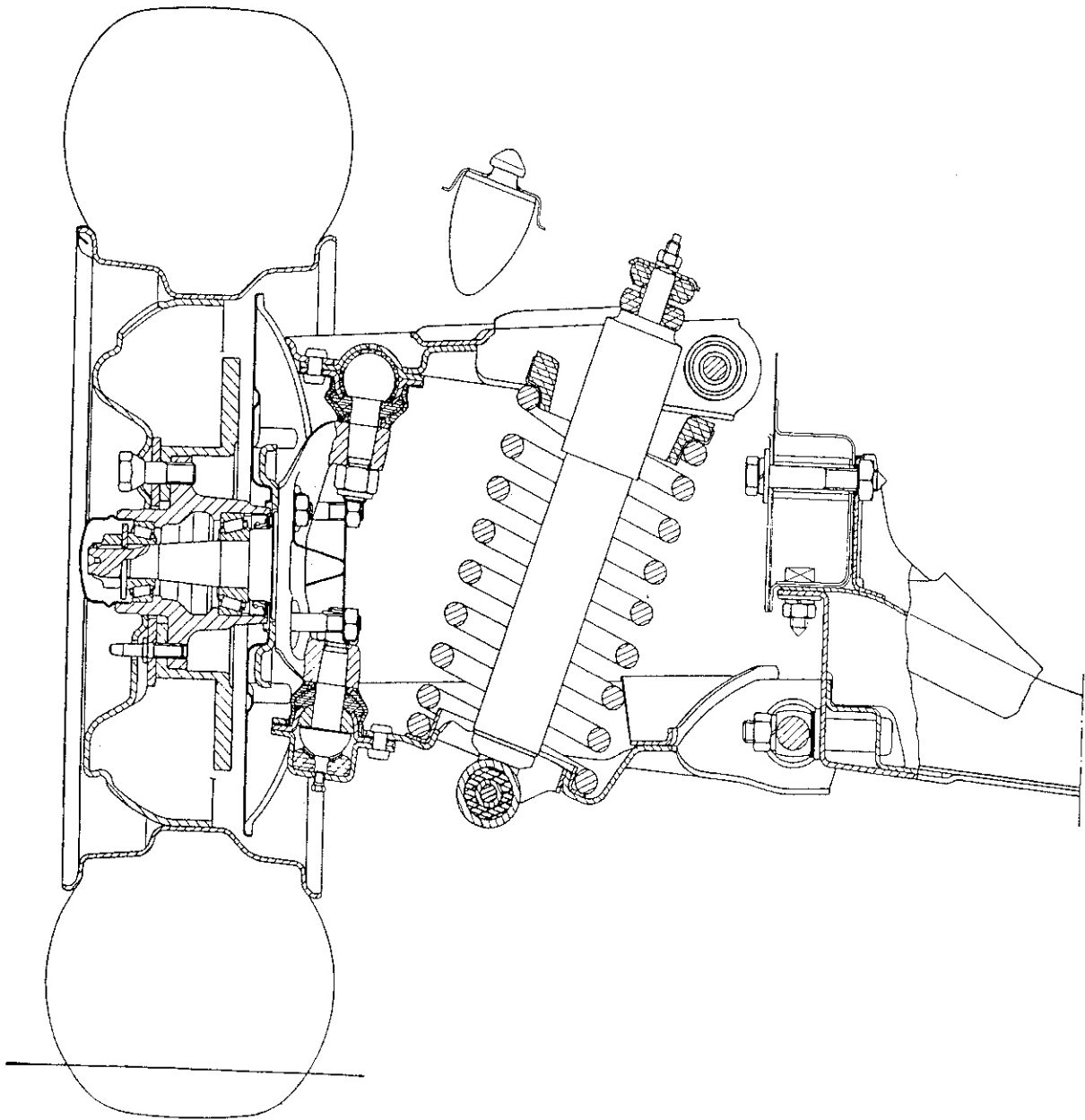
TORQUE SPECIFICATIONS

DESCRIPTION	THREAD (METRIC)	MATERIAL	TORQUE		
			N·m	FT. LB.	Kgm
FRONT SUSPENSION					
Front wheel stud	M 12 x 1.25	C 35 R Bon Znt	86	65	9
Crossmember-to-side member bolt	M 12 x 1.25	R 80 Znt	93	69	9.5
Crossmember-to-side member lower nut	M 10 x 1.25	R 50 Znt (Bolt R 80 Znt)	56	40	5.5
Lower control arm-to-crossmember nut	M 12 x 1.25	R 50 Znt (Bolt R 50 Sd Stab)	59	43	6
Lower control arm-to-pivot bar nut	M 14 x 1.5	R 50 Znt	98	72	10
Self-locking nut, type S, securing ball joint to lower control arm	M 14 x 1.5	R 50 Cdt (Pin 25 Mc 6 Rct Glob Estr Dist Fosf R 65 ± 5)	52	40	5.5
Upper control arm self-locking nut (nylon-lined)	M 14 x 1.5	R 80 Znt (Pin R 80 Cdt)	88	65	9
Shock absorber upper mounting nut	M 8	R 50 Znt (Stem R 50)	15	11	1.5
Shock absorber lower mounting nut	M 10 x 1.25	R 80 Znt (Bolt R 100)	59	43	6
Sway bar bracket-to-lower control arm nut	M 8	R 50 Znt (Bolt R 50 Sd Stab)	18	14	2
Sway bar center mounting nut	M 8	R 50 Znt (Bolt R 50 Sd Stab)	18	14	2
Ball joint-to-knuckle self-locking nut (nylon-lined)	M 14 x 1.5	R 50 Znt (Pins 35 Nc 5 R 40 Ni Cr Mo 2R)	98	72	10
Caliper plate and steering arm-to-knuckle nut ..	M 10 x 1.25	R 80 Znt (Bolt R 100 Cdt)	59	43	6
Brake caliper carrier plate bolt	M 10 x 1.25	R 80 Fosf Black	49	36	5
Front brake bleeding screw	M 8	R 50 Ind Cdt	6,4	3	.4
Front wheel brake hose connector	3/8-24Unf-2A	C 4 Mf Trf Bon Cdt Bright	27	22	3
REAR SUSPENSION					
Shock absorber upper mount nut	M 8	R 50 Znt (Shank R 50)	15	11	1.5
Shock absorber lower mount nut	M 10 x 1.25	R 50 Znt (Bolt R 80 Znt)	49	36	5
Shock absorber lower mount support self-locking nut (nylon-lined)	M 8	R 50 Znt (Bolt R 50 SD Stab)	18	14	2
Reaction and cross rods nut	M 12 x 1.25	R 50 Znt (Bolt R 80 Znt)	78	58	8
Upper reaction rod-to-body self-locking nut (nylon-lined)	M 12 x 1.25	R 80 Znt (Bolt R 80 Znt)	78	58	8
Lower reaction rod front support-to-body nut ..	M 10 x 1.25	R 50 Znt (Bolt R 50 SD Stab)	32	25	3.5

Front Suspension

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CROSS SECTION OF L.H. ROAD WHEEL AND FRONT SUSPENSION

Front Suspension

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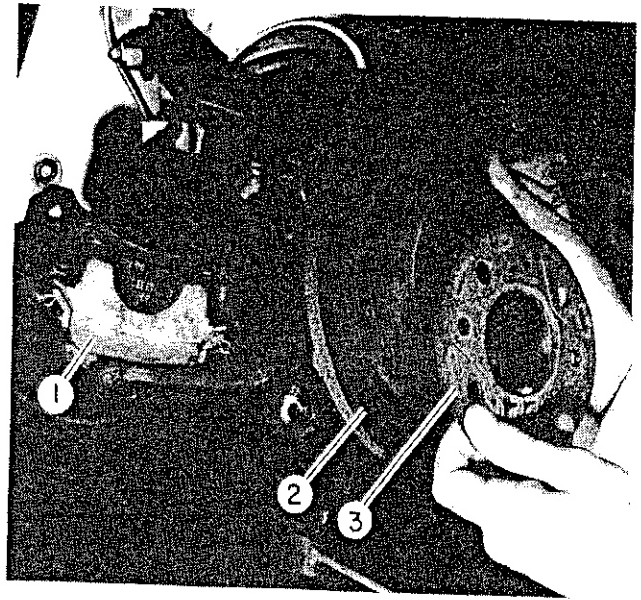
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Remove two bolts holding caliper assembly (1) to backing plate and lay to one side.

Remove two locating bolts to remove brake disc (2) and plate (3).

Remove bearing cap. Remove nut and washer and withdraw wheel hub.

1. Caliper assembly 2. Brake disc 3. Plate

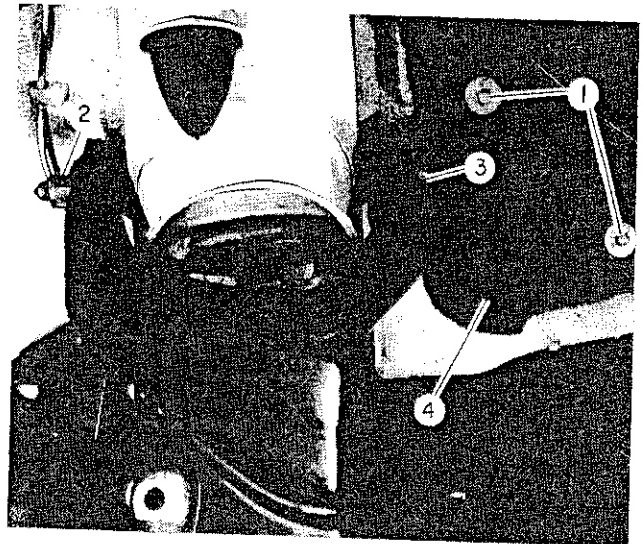


Remove five bolts (1) holding fender splash shield (4) to body and withdraw shield.

Remove nut (2) from pivot bolt (3). Drive pivot bolt out with brass drift pin.

NOTE: If coil spring compressor does not completely release spring tension, lower vehicle until lower control arm just contacts jack, this will take tension off upper control arm pivot bolt.

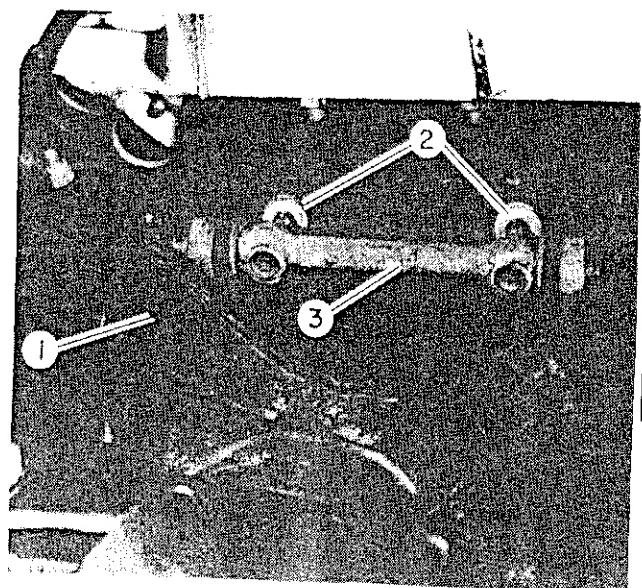
1. Bolt 2. Nut 3. Pivot bolt 4. Splash shield



Remove two nuts which secure lower control arm (1) to cross-member. Entire assembly can now be removed.

NOTE: If shims (2) are removed when removing lower control arm, note number and location of shims between pivot bar (3) and body. Shims control caster and camber adjustments.

1. Lower control arm 2. Shims 3. Pivot bar



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Front Suspension

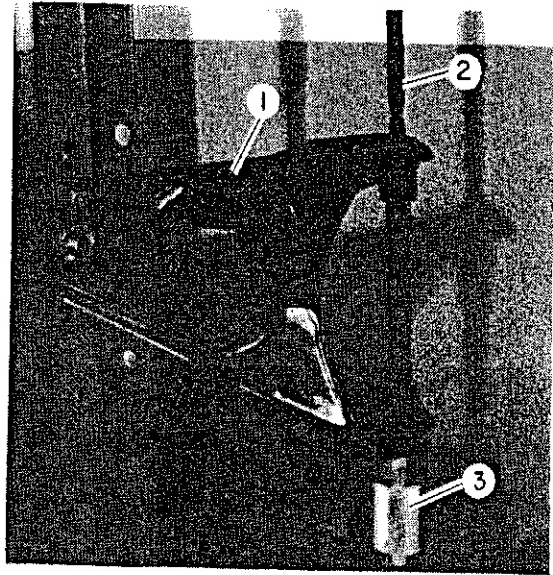
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Place lower control arm (1) in press with pin (2) and collar (3) as shown. Press bushing out of its seat.

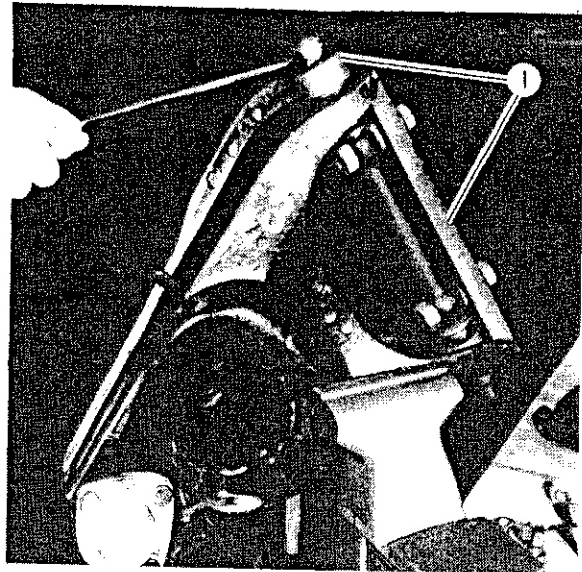
Turn control arm around and repeat operation to extract other bushing.

1. Lower control arm 2. Pin 3. Collar



Install new bushings with special collars (1) as shown. Tighten nut until bushing bottoms out.

1. Bushing installation collars



Front Suspension

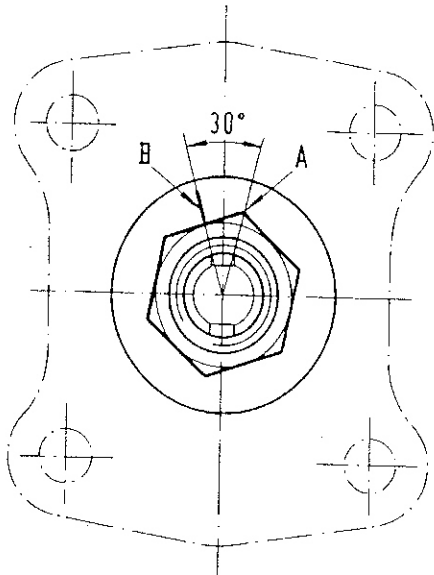
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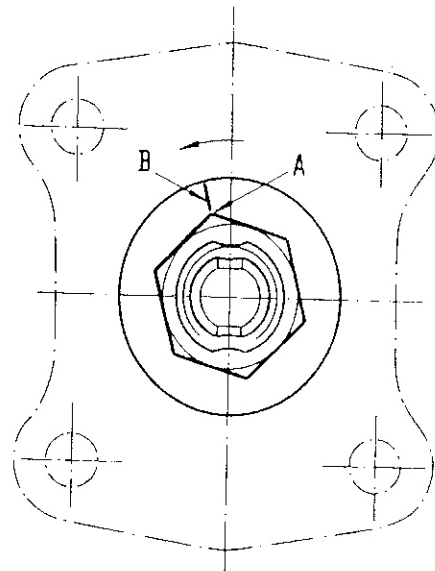
Fit hub complete with bearings and seal to steering knuckle. Be certain bearings are lubricated with bearing grease.

Install outer bearing thrust washer, inserting tab in groove on knuckle spindle. Install new hub nut and tighten it with a torque of 14.5 ft. lb. (2 kgm) at the same time turning hub in both directions four or five times to ensure that bearings are properly seated. Unscrew nut and then torque it to 5 ft. lb. (0.7 kgm).

Unscrew nut 30° . To do this first make a chisel mark "B" on washer opposite the middle of one face of hex nut as shown. Then unscrew nut until next angle "A" of nut is opposite mark "B".



Nut tightened with a torque of 5 ft.lbs (0.7 kgm).



Nut unscrewed by 30° .

A. Angle of nut. - B. Reference mark on washer.

Figure shows adjustment of left front wheel hub. Reverse procedure for right hand hub as nut has a left-hand thread.

When nut has been unscrewed 30° , lock it in this position by crimping its lock collar with tool A.74140 (1) as shown.

Fill wheel hub cover with bearing grease and install on hub (2) by gently tapping until it seats.

Install brake disc and plate to wheel hub with two locating bolts.

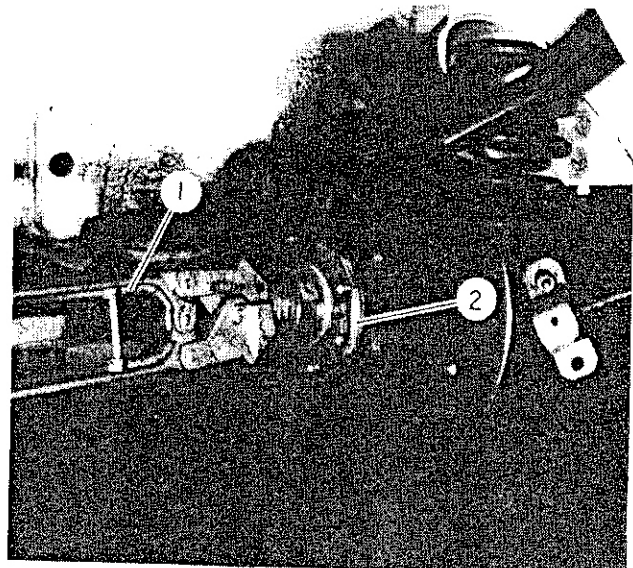
Install complete caliper assembly to mounting bracket with two bolts. Torque to 36 ft. lb. (5 kgm).

Install road wheels. Torque wheel bolts to 65 ft. lb. (9 kgm). Check tire pressures for conformance to specifications.

Lower vehicle and set front wheels straight ahead.

NOTE: Rubber bushing nuts and bolts must be tightened with vehicle laden with two persons + 130 lb. (59 kg) of luggage to avoid abnormal stresses on bushings. Refer to figure on next page.

CAUTION: Pump brake pedal a few times to ensure brake pads are fully seated before driving vehicle.



1. Tool A.74140 2. Hub

SWAY BAR

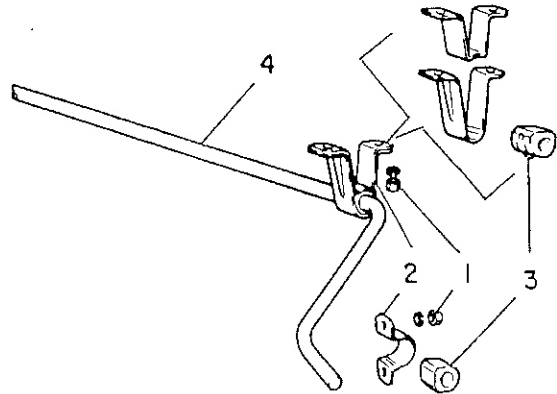
REMOVAL AND INSTALLATION

Remove eight bolts to remove front splash shield.

Remove eight nuts (1) and lockwashers holding sway bar supports (2) and bushings (3). Remove sway bar.

Install in reverse order of removal. Torque nuts to 14 ft. lb. (2 kgm).

1. Nut 2. Support bracket 3. Bushing



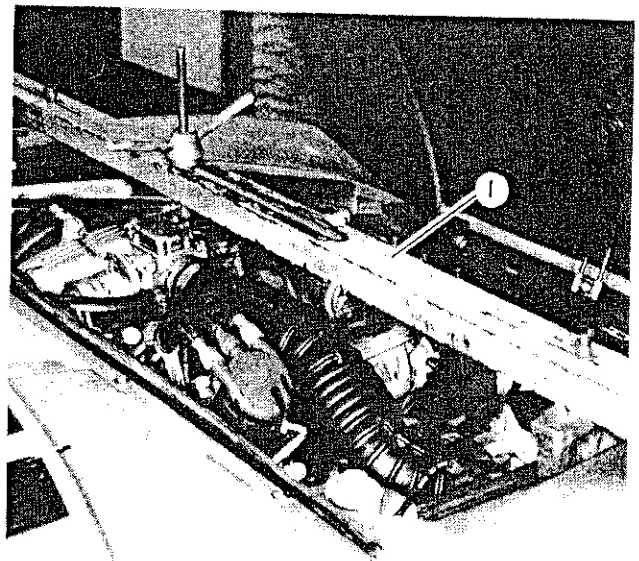
CROSSMEMBER

REMOVAL AND INSTALLATION

Support engine with bar A.70526 (1) as shown.

Remove both front suspension assemblies as described in this section.

1. Engine Support A.70526

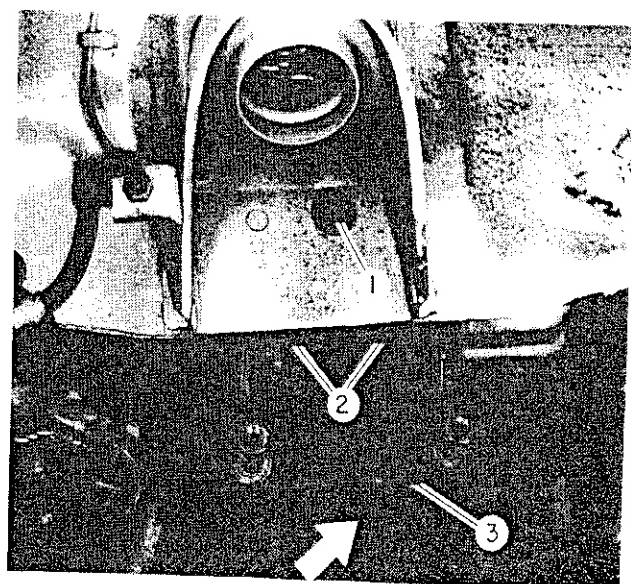


Remove two bolts (1), four nuts (2) and washers holding crossmember (3) to frame. Remove two nuts and washers, thru crossmember opening (arrow), holding engine mounts to crossmember. Remove crossmember.

Note location of any shims between body and crossmember.

Install in reverse order of removal. Torque bolts to 69 ft. lb. (9.5 kgm) and nuts to 40 ft. lb. (5.5 kgm). Torque engine mount nuts to 25 ft. lb. (3.5 kgm).

1. Bolt 2. Nut 3. Crossmember



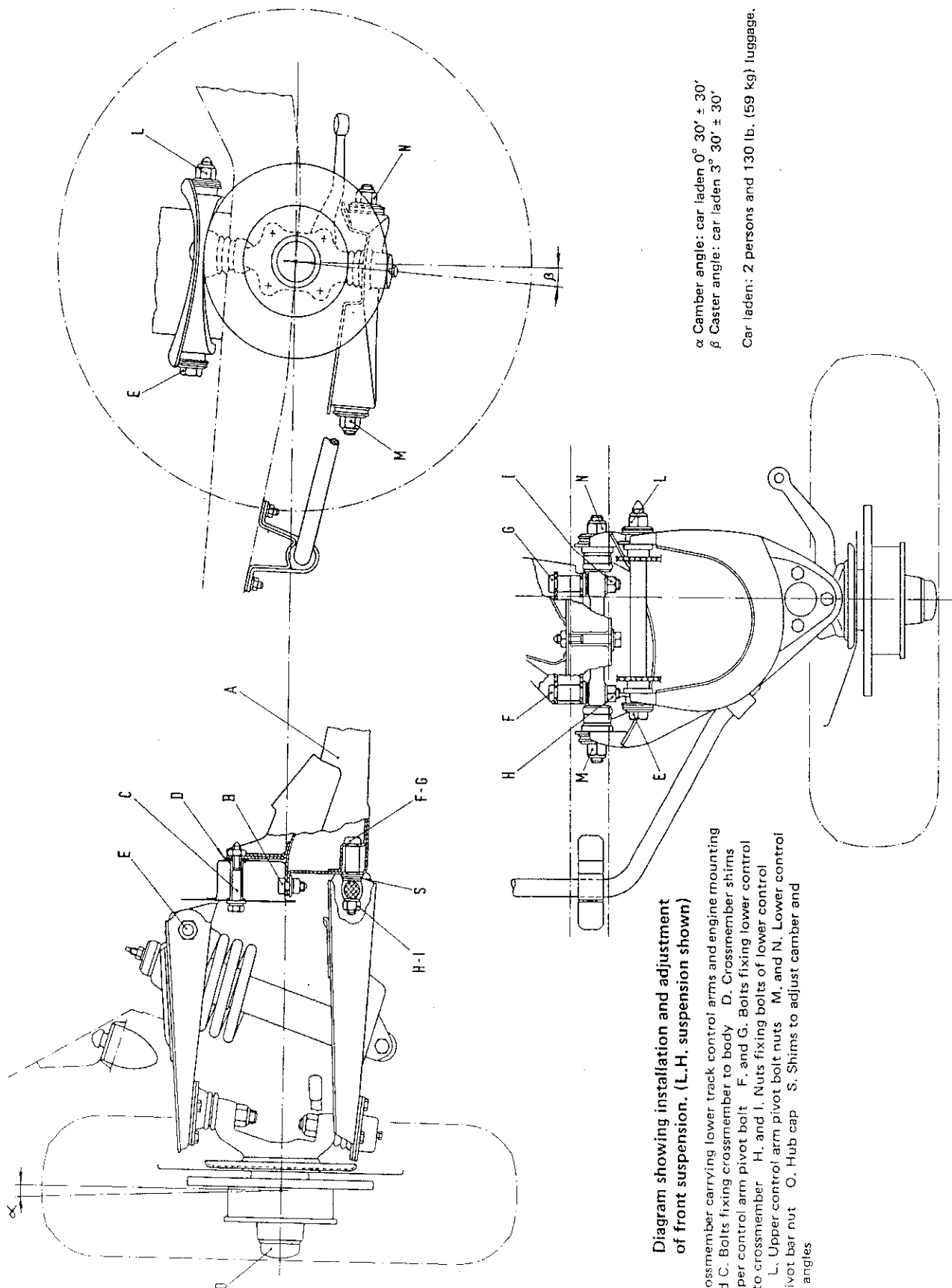


Diagram showing installation and adjustment of front suspension. (L.H. suspension shown)

- A. Crossmember carrying lower track control arms and engine mounting
- B. and C. Bolts fixing crossmember to body
- D. Crossmember shims
- E. Upper control arm pivot bolt
- F. and G. Bolts fixing lower control arms to crossmember
- H. and I. Nuts fixing bolts of lower control arms
- L. Upper control arm pivot bolt nuts
- M. and N. Lower control arm pivot bar nut
- O. Hub cap
- S. Shims to adjust camber and caster angles

α Camber angle: car laden $0^{\circ} 30' \pm 30'$
 β Caster angle: car laden $3^{\circ} 30' \pm 30'$
 Car laden: 2 persons and 130 lb. (59 kg) luggage.

Front Shock Absorbers

443.02

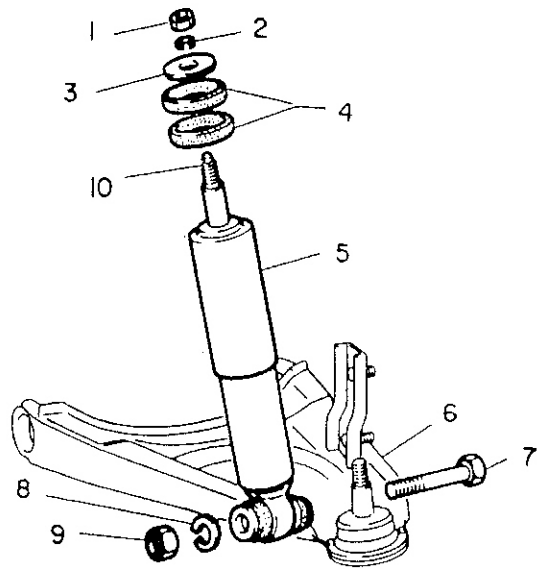
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REMOVAL AND INSTALLATION

From inside engine compartment, disconnect nut (1) on upper end of shock absorber (5), holding shank (10) from turning with wrench A.57070.

From under vehicle, remove bolt (7) and nut (9) holding shock absorber to lower control arm (6). Withdraw shock absorber thru lower control arm.

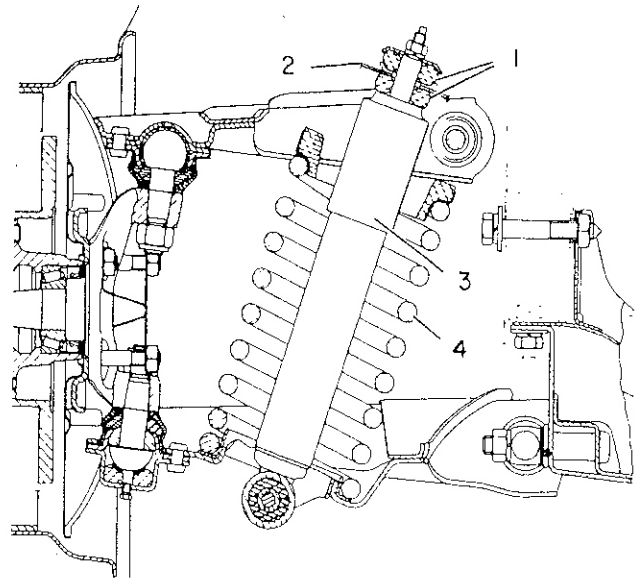
1. Nut 2. Lockwasher 3. Flat washer 4. Rubber bushing
5. Shock absorber 6. Lower control arm 7. Bolt 8. Lockwasher
9. Nut



Installation is reverse of removal.

Be certain that rubber bushings (1) are installed between body (2) and shock absorber (3) as shown. Torque lower nut to 43 ft. lb. (6 kgm) and upper nut to 11 ft. lb. (1.5 kgm).

1. Rubber bushing 2. Body section 3. Shock absorber 4. Coil spring



REAR SUSPENSION

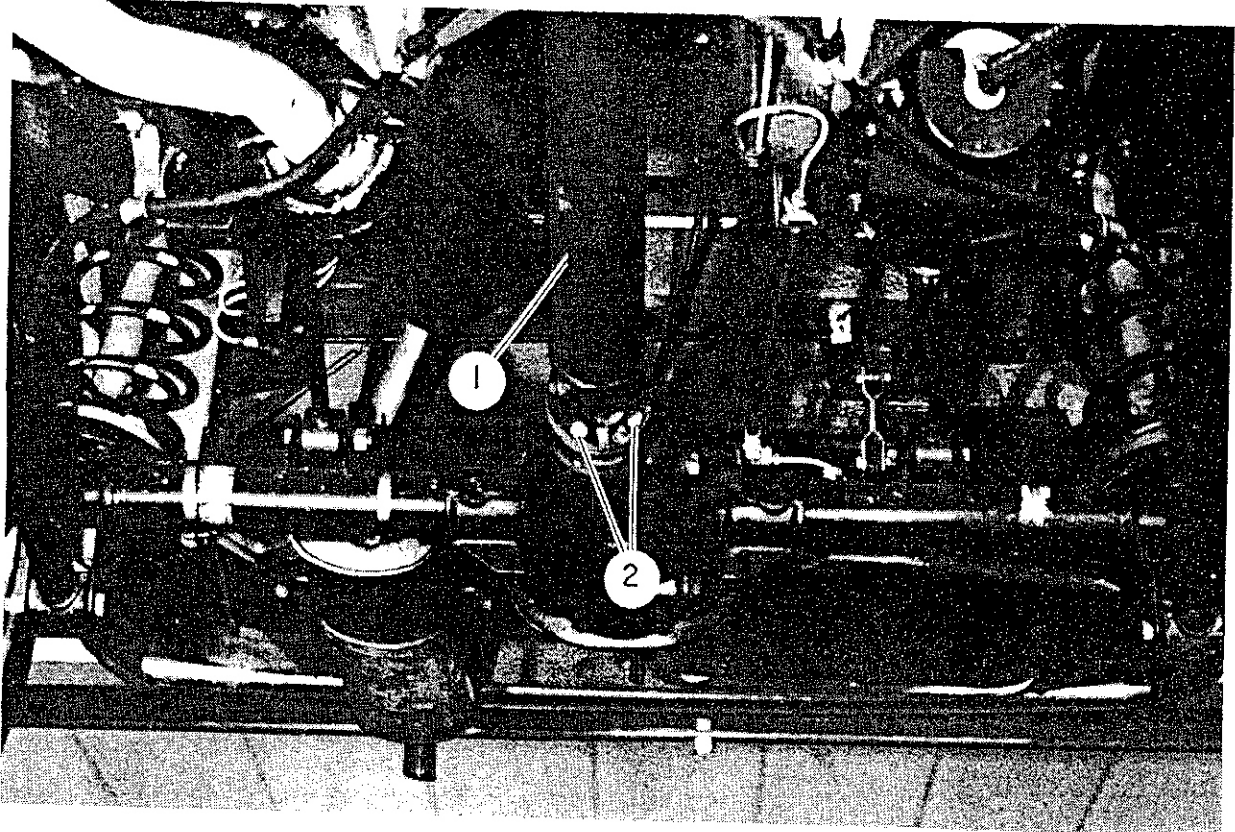
REMOVAL

Raise vehicle on lift. Remove both rear road wheels.

Disconnect drive shaft (1) at differential by removing four bolts (2) and nuts.

NOTE: Mark shaft flange in relation to differential flange so that upon installation it will be assembled in same position.
Secure shaft out of way.

1. Drive shaft 2. Bolt

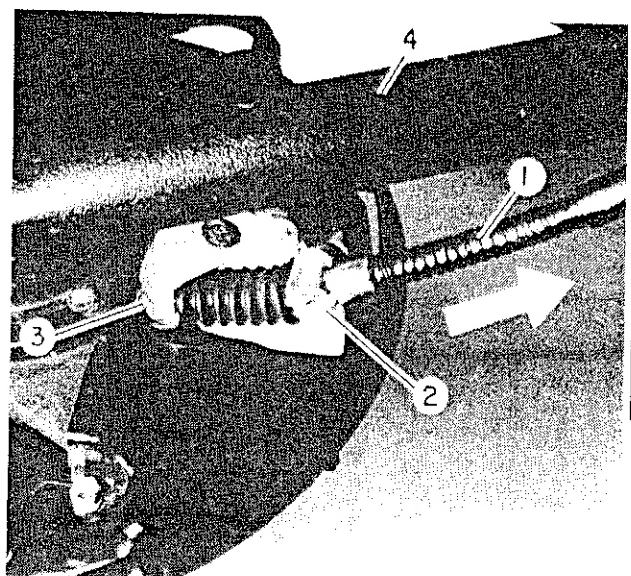


Disconnect ends of hand brake cable by first loosening cable adjustment with adjusting nuts.

Pull cable (1) out of support housing (2) in direction shown (arrow) and remove ball end (3) from socket.

Free cables from clips on lower reaction rods (4).

1. Hand brake cable 2. Support housing 3. Cable ball end
4. Lower reaction rod



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Rear Suspension

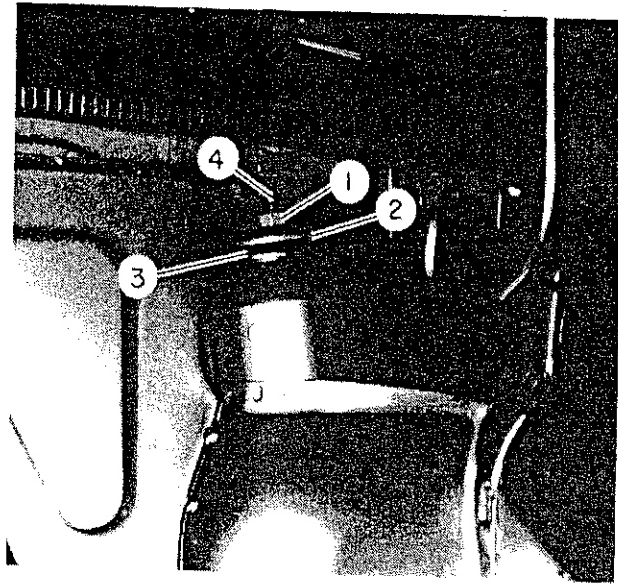
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From inside trunk, remove nuts (1), washers (2) and rubber bushings (3) holding upper end of shock absorbers. Use wrench A.57070 to hold shank (4) while removing nut.

Carefully lower jack and withdraw suspension assembly.

1. Nut 2. Washer 3. Rubber bushing 4. Shank



INSTALLATION

Installation is reverse of removal with attention to the following steps:

- Coil springs are divided into two classes, color coded yellow or green. Spring pairs must be the same color code. Also, both front and rear must be the same color code.
- Do not fully tighten reaction rod mounting hardware until suspension is completely installed and vehicle is on ground or drive-on lift, and is laden to equivalent of two persons plus 130 lb. (59 kg) of luggage. This is to prevent rubber bushings from being over stressed. Refer to torque specifications at beginning of this section.
- After connecting hydraulic brake hose, bleed system. Refer to Brakes Section.

Rear Shock Absorbers

443.06

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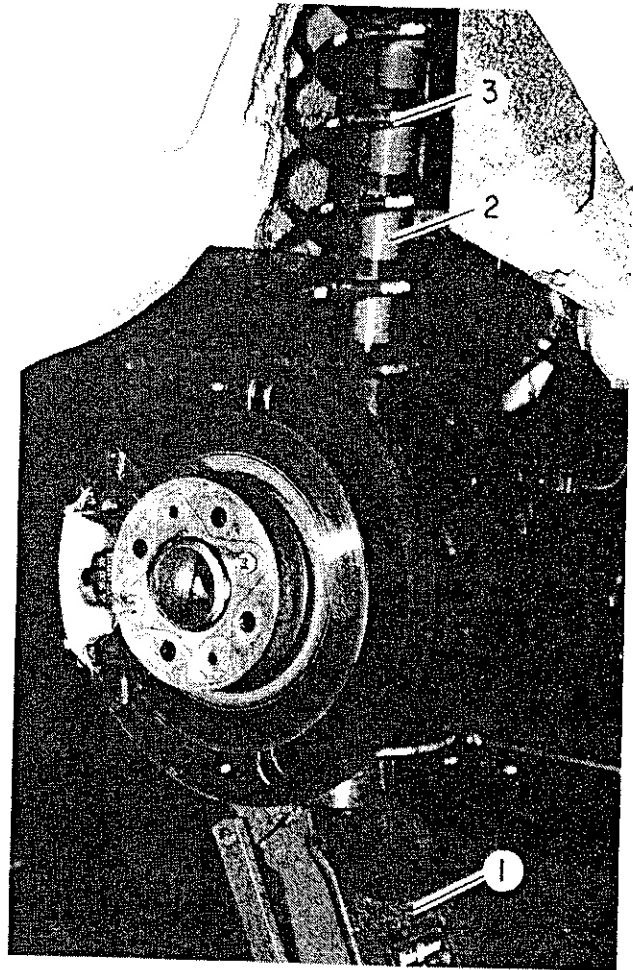
REMOVAL AND INSTALLATION

Raise vehicle on lift.

Remove road wheel.

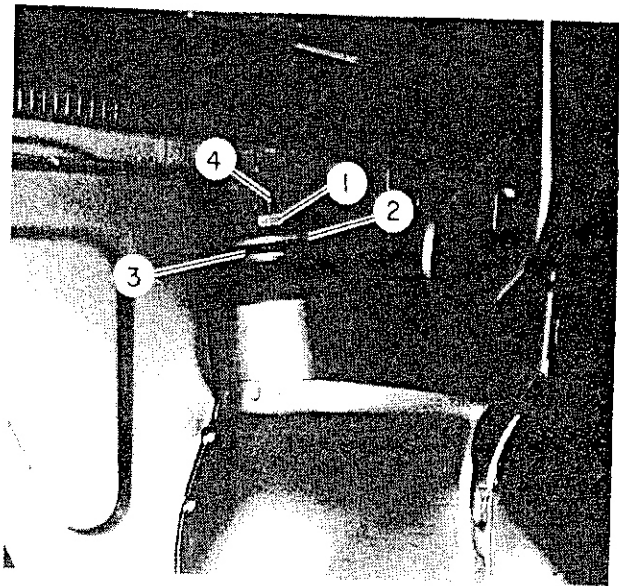
Lower axle onto jack (1) as shown, compressing spring slightly to take tension off upper nut on shock absorber (2).

1. Jack 2. Shock absorber 3. Coil spring



Remove nut (1), washer (2) and rubber bushing (3). To keep shank (4) from turning while removing nut, use wrench A.57070.

1. Nut 2. Washer 3. Rubber bushing 4. Shank

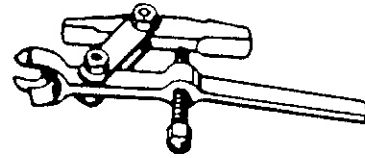


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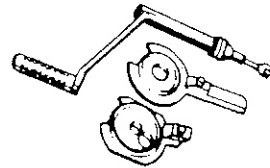
A.57070 (J28051) Shock absorber shank wrench



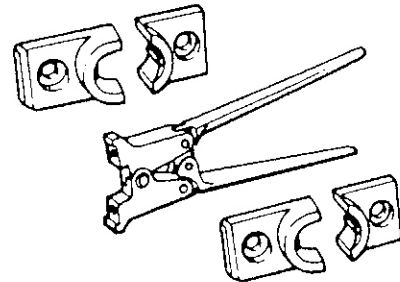
A.47038 (J28013) Tie rod remover



A.74174 (J28131) Front suspension coil spring compressor



A.74140 (J28213) Hub nut staking tool



A.47042 (J28015) Ball joint remover

